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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,235	12/01/2003	Andrew J. Curello	BIC-023	1937

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EXAMINER	
CINTINS, IVARS C	
ART UNIT	**PAPER NUMBER**
1724	

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Applicati n No.	Applicant(s)	
	10/725,235	CURELLO ET AL.	
	Examiner	Art Unit	
	Ivars C. Cintins	1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derflinger et al. (U.S. Patent No. 6,723,460; hereinafter "Derflinger") in view of Paronen (U.S. Patent No. 6,630,518). Derflinger discloses a fuel cell system, and teaches utilizing an ion exchanger unit **3** to purify fuel before it reaches a fuel cell (see Fig. 1; and col. 2, lines 14-16 and 29-31). Accordingly, this primary reference discloses the claimed invention with the exception of the type of material employed in the ion exchanger, its location in the system, its physical form, and the newly recited electrical conductivity sensor (claims 24 and 25). Paronen discloses perfluorinated sulfonic acid polymers of the type recited (see col. 4, lines 15-20; and col. 5, line 17), and teaches that these polymers can be used as both fuel cell membranes and as ion exchangers (see col. 2, lines 62-65). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the perfluorinated sulfonic acid polymer of Paronen as both the fuel cell membrane and the ion exchanger material in the system of Derflinger, in view of the teaching by this secondary reference that this polymer can be used in both of these applications. Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to place the ion exchanger of the thus modified primary reference at any of the locations recited in claims 3, 5, 7 and 21-23, in order to remove contaminants from the fluid in these

locations. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the perfluorinated sulfonic acid polymer of the thus modified primary reference in any of the physical forms recited in claims 8-13, 16 and 18, since this polymer would appear to retain its ion exchange properties in each of the recited physical forms. Moreover, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the system of the thus modified primary reference with an electrical conductivity sensor, in order to monitor the electrical conductivity of the fuel in this system. Such a modification is deemed to be especially obvious since Derflinger clearly discloses the importance of maintaining a low electrical conductivity for the water/methanol mixture (see col. 3, lines 37-40).

Applicant's arguments filed March 28, 2006 have been noted and carefully considered but are not deemed to be persuasive of patentability. Applicant argues that Derflinger does not teach the removal of metal ions, as recited in the claims of this application. It is pointed out, however, that the intended use of a device (i.e. to remove metal ions) is not a structural limitation, and hence cannot be relied upon to patentably distinguish apparatus claims 1-25. It is well settled that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987). Upon modification of the primary reference in the manner proposed above, the perfluorinated sulfonic acid polymer of the thus modified primary reference will inherently be capable of removing metal ions from a fuel, for substantially the same reasons that Applicant's perfluorinated

sulfonic acid polymer is capable of performing this function, and this capability is all that is required by apparatus claims 1-25.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is 571-272-1155. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Duane Smith, can be reached at 571-272-1166.

The centralized facsimile number for the USPTO is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ivars C. Cintins
Primary Examiner
Art Unit 1724

I. Cintins
June 12, 2006